AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Currently amended) A method for forecasting the electrical conductivity of an anode for aluminum production, the method comprising:

generating an excitation electromagnetic field;

moving the anode, or a sample thereof, within at least one receiving coil electromagnetically coupled to the electromagnetic field before baking of the anode;

sensing a variation in the electromagnetic field received by the at least one receiving coil and outputting a signal indicative thereof;

calculating a value indicative of the electrical conductivity of the anode; wherein the value indicative of the electrical conductivity of the anode is calculated using the signal indicative of the variation in the electromagnetic field received by the at least one

receiving coil and previously-recorded signals obtained with reference anodes before baking thereof and for which the electrical conductivity has also been directly measured after baking using conventional methods or by monitoring their efficiency during use; and

the calculated value being indicative of the electrical conductivity of the anode after baking.

~~The method as defined in claim 10, characterized in that it further comprises:~~

comparing the value indicative of the electrical conductivity of the anode to a threshold value; and

discarding the anode before baking based on the fact that its forecasted electrical conductivity is below the threshold value.

12. (Currently amended) The method as defined in claim 11 ~~10~~, further comprising the step of: ~~characterized in that it further comprises:~~

modifying composition of subsequently-manufactured crude anodes based on the forecasted electrical conductivity of the anode so as to optimize the electrical conductivity of the subsequently-manufactured anodes after baking.

13. (Currently amended) The method as defined in claim 11 ~~10~~, wherein ~~characterized in that it further comprises:~~ the value indicative of the electrical conductivity of the anode is calculated using a value indicative of a maximum variation in the signal.

14. (Currently amended) A method of forecasting the electrical conductivity of an anode for aluminum production before baking thereof, the method comprising the steps of: ~~being characterized in that it comprises:~~

sensing a variation caused by a first reference crude anode to an excitation electromagnetic field received by at least one receiving coil;

sensing the variation for a plurality of other reference crude anodes having various compositions;

measuring the electrical conductivity of the reference anodes after baking thereof using conventional methods or by monitoring their efficiency during use;

determining a correlation between the sensed variations for the reference anodes before baking and their electrical conductivity measured after baking;

sensing the variation for an additional anode before baking thereof;

calculating a value indicative of the electrical conductivity of the additional anode using the correlation between the sensed variations for the reference anodes before baking and their measured electrical conductivity after baking;

15. (Currently amended) The method as defined in claim 14, further comprising the steps of: ~~characterized in that it further comprises:~~

comparing the forecasted electrical conductivity of the additional anode to a threshold value; and

discarding the additional anode before baking based on the fact that its forecasted electrical conductivity is below the threshold value.

16. (Currently amended) The method as defined in claim 14, further comprising the step of: ~~characterized in that it further comprises:~~

modifying the composition of subsequently-manufactured additional crude anodes based on the forecasted electrical conductivity of the additional anode in effort to meet the electrical conductivity threshold.

17. (Currently amended) The method as defined in claim 14, wherein ~~characterized in that~~ the value indicative of the electrical conductivity of the additional anode is calculated using a value indicative a maximum variation in the signal.

18. (New) A method of forecasting the electrical conductivity of an anode for aluminum production before baking thereof, the method comprising the steps of:

sensing a variation caused by a first reference crude anode to an excitation electromagnetic field received by at least one receiving coil;

sensing the variation for a plurality of other reference crude anodes having various compositions;

measuring the electrical conductivity of the reference anodes after baking thereof;

determining a correlation between the sensed variations for the reference anodes before baking and their electrical conductivity measured after baking;

sensing the variation for an additional anode before baking thereof; and

calculating a value indicative of the electrical conductivity of the additional anode using the correlation between the sensed variations for the reference anodes before baking and their measured electrical conductivity after baking, and using a value indicative a maximum variation in the signal.